INVESTMENT THOUGHTS

SEPTEMBER 2018

RISK MANAGEMENT AND THE STOCK/BOND CORRELATION

It is always a good time to focus on risk. Since investors cannot control the financial markets they need to decide how they can construct their portfolios to manage downside scenarios. At the most elemental level is the idea of diversification in one's asset allocation. This subject can be addressed at the asset class level in the proportion of stocks, bonds, real estate, cash and other assets. It can also be addressed at the individual security level as in different economic sectors for stocks and various credit and duration risks for bonds. However, at the heart of the value of diversification is the expectation that the process results in the reduction of portfolio volatility. This is achieved when assets have low or negative correlation, that is, the assets don't zig and zag at the same time canceling out the benefits. If they do move together on the downside, then it is much like the swinging of a suspended footbridge with soldiers all marching to the same cadence causing <u>more</u> volatility not less. One wants a lack of correlation when prices are falling. We are pleased to see high correlations (everything up) with rising prices.

The stock/bond correlation relationship is one of the most often used methods to manage risk in the asset allocation process. Bond prices are relatively more stable than stocks. Bonds add diversification to a portfolio of stocks as they have been typically anti-correlated to stocks, but not always. **Chart #1** from PIMCO covers a period from 1990-2016 and captures the two big market sell-offs of 2000 and 2008-09. Bond performance represented in the green color make the point of how bonds can protect a portfolio. In another view in **Chart #2** from Vanguard we can see the range of return variability from various stock/bond exposures. For instance, a portfolio of 40% bonds and 60% stocks had a one year return range of +36% to -26%. Stocks are so much more volatile then bonds that it takes a relatively large measure of bonds in a portfolio to offset stock price volatility (note the wide range of the 100% stock allocation). *The issue today is that bonds have a diminished capacity to offset the volatility of stocks due to their low yields and price vulnerabilities in the current environment of rising yields and inflation (falling bond prices).* When bonds are in a bear market, they can become positively correlated to stocks to a degree. Stocks may also be declining from the same rising yield and inflation headwinds. In this case the total return of bonds cannot overcome stock risk factors as much as in past episodes. Today's small bond yields can be quickly overcome by price change. Bond prices should de-couple from stocks in a stock sell-off, but the correlations today are affected by the macroeconomic story that is driving interest rates higher. This is the challenge today.

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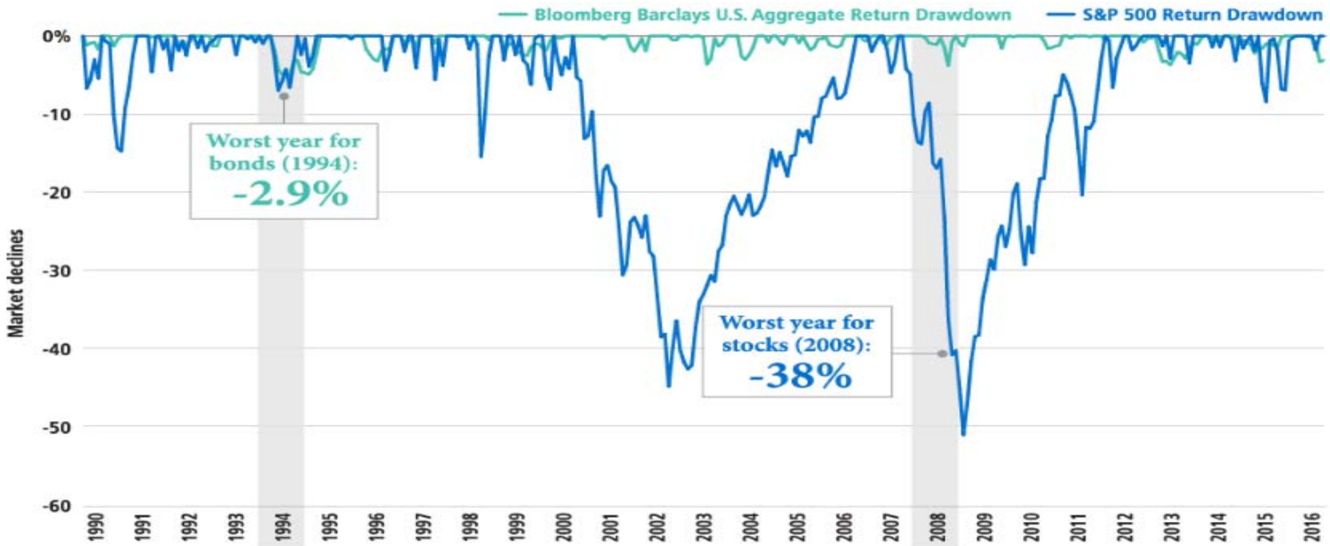
Chart #1



Performance quoted represents past performance. **Past performance is not a guarantee or a reliable indicator of future results.**
Source: Morningstar Direct. Chart shows U.S. stock and bond declines beginning December 1989 and ending December 2016. Stocks are represented by the S&P 500 Index, bonds by the Bloomberg Barclays U.S. Aggregate Index. Worst years are calendar years.

PIMCO

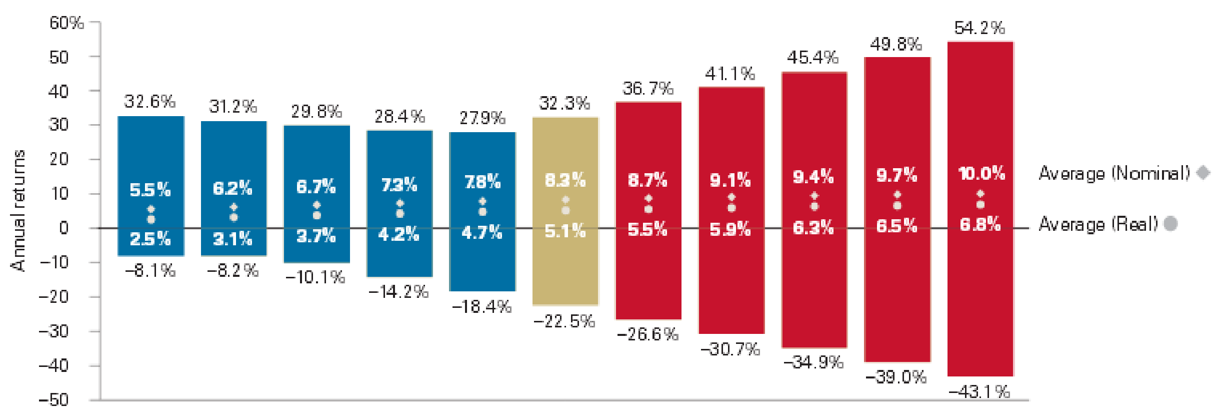
The Case for Bonds: Principal Preservation

Historically, bond market declines have been much less severe than the stock market

Chart #2

Portfolio allocation

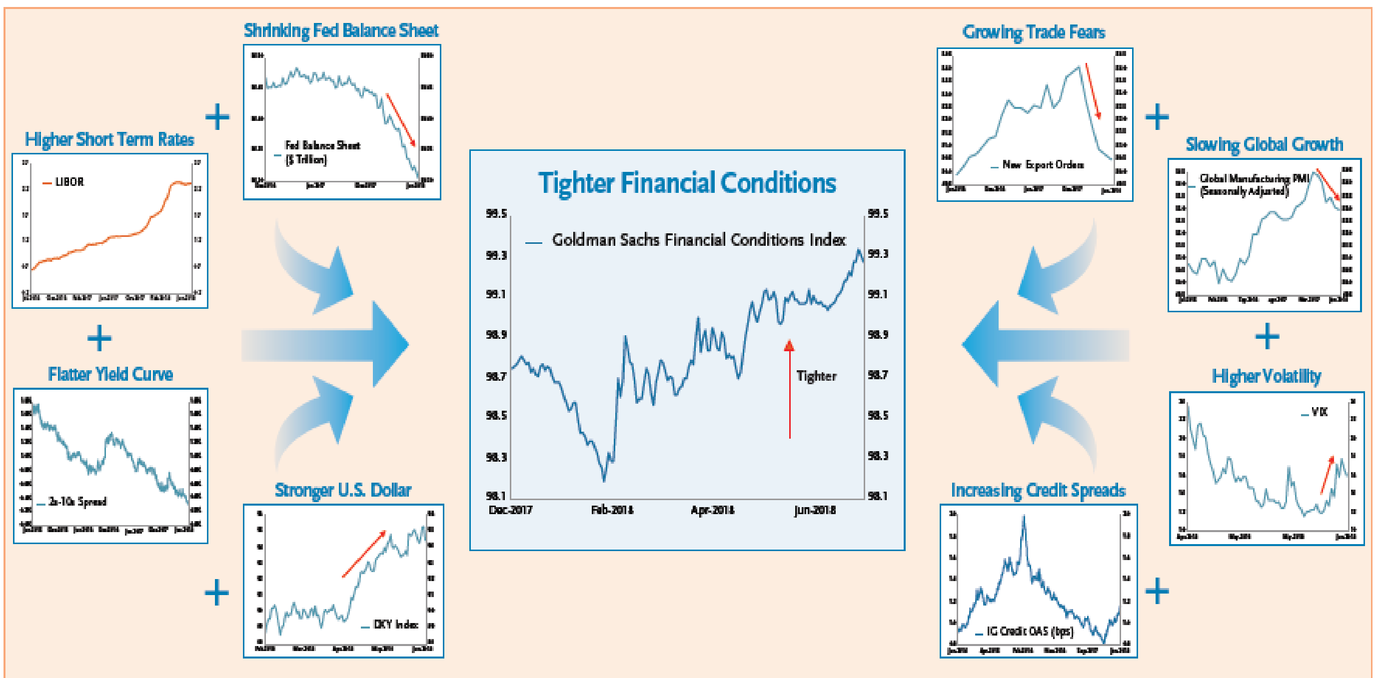
Bonds	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
Stocks	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%



Source: The Vanguard Group

As Ledyard analyzes the current market conditions for stocks and bonds *the most important factor affecting prices will be the direction and level of interest rates and inflation and the Federal Reserve's policy responses.* There will not be as much diversification value and risk reduction from bonds when financial conditions are tightening. The problem stems from the Federal Reserve attempting to "normalize" interest rates from the very low levels originating from the credit crisis. What is the natural interest rate level in today's economy at which the Fed is neither too accommodative nor too restrictive? It is different this time. It is different this time because the high debt levels in the American economy mean that this neutral level will be *lower* than past circumstances as the sensitivity of the economy to a heavier interest burden is greater. Rate hikes by the Fed will become restrictive sooner, moving yields higher and potentially weakening bond prices. Also affecting US rates are the very low yields outside the US in Europe and Japan. The question is at what level of rates does Fed policy slip over to restrictive? When determining when night turns into day one looks to see when one can tell a white thread from a black one next to it. Our guide in this case will be to watch bond prices. We think the bond market will be the best judge of the correct level of yields. At first, bond yields rise with Fed tightening, but ultimately tighter policy leads to expectations of slower growth. Bond yields will then stop rising. **Chart #3** exhibits the multi-factors contributing to tighter financial conditions that have a bearing on bond's ability to serve as a diversifier of risk. They are primarily, rising short-term rates from a low base that create bigger percentage price changes on bonds.

Chart #3



Source: Bloomberg, IHS Markit, JP Morgan, Goldman Sachs

Source: METWESTFUNDS

Investment implications:
The stock/bond mix of most portfolios is often established as a way to manage the risks of owning stocks and dealing with market price changes during downturns. Bonds are also one of the most efficient vehicles to generate income. The lower efficacy of bonds to offset stock market volatility stems from the position of the bond market as it moves from a cycle of falling yields since 1981 to one of rising yields (falling bond prices). Longer maturity bonds provide better income, but will have more price sensitivity offering less protection. This seems to us to be a short-term problem that will correct itself. Higher bond yields temporarily hurt bond prices, but ultimately these higher yields slow the economy and bond yields top out. In the meantime, the prescription that can ameliorate this condition is to hold high quality, shorter duration bonds and cash equivalents as a larger percentage relative to stocks. The short duration can mitigate price weakness and help re-establish the downside protection that comes from a bond with a low correlation to stocks. The price of this protection may be a bit less income in the short term.

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